COASTAL PLAIN DEPRESSION SWAMP (POCOSIN SUBTYPE)

Concept: Coastal Plain Depression Swamps are depressional wetlands with a well-developed, closed or nearly closed tree canopy of *Taxodium ascendens* or *Nyssa biflora* but without a dense graminoid-dominated herb layer. The Pocosin Subtype covers examples, generally in Carolina bays, with a dense shrub layer strongly dominated by the characteristic pocosin shrubs, mainly *Cyrilla racemiflora, Lyonia lucida, Ilex glabra,* and *Zenobia pulverulenta*, often along with *Ilex amelanchier, Vaccinium formosum*, and *Vaccinium fuscatum*. It is thus like a Small Depression Pocosin but with a well-developed swamp canopy.

Distinguishing Features: Small Depression Swamp communities are distinguished from other Coastal Plain Depression Communities by the occurrence of a well-developed canopy of *Taxodium ascendens* or *Nyssa biflora* in a depressional wetland, without a well-developed herb layer. The Pocosin Subtype is distinguished by the dense pocosin-like shrub layer beneath a swamp canopy. *Morella cerifera, Eubotrys racemosa, Itea virginica*, and *Leucothoe axillaris*, and other species not typical of pocosins are absent or scarce, except that *Vaccinium* spp. or *Ilex Amelanchier* often are present. Small Depression Pocosins conceptually grade into this subtype; the distinction is based largely on canopy development but the type of basin is usually different as well.

Synonyms: *Taxodium ascendens / Cyrilla racemiflora - Zenobia pulverulenta* Woodland (CEGL003734).
Ecological Systems: Atlantic Coastal Plain Clay-Based Carolina Bay Wetland (CES203.245). Southern Atlantic Coastal Plain Depression Pondshore (CES203.262).

Sites: The Pocosin Subtype occurs most often in Carolina bays, but is also known in limesink depressions and could potentially occur in dune swales.

Soils: Sites usually have wet mineral soils, with or without a shallow organic layer. Many examples are small enough not to be distinguished in soil mapping. Soils mapped for some of the larger examples include Torhunta (Typic Humaquept), Pantego (Umbric Paleaquult), and Coxville (Typic Paleaquult). However, at least one example is mapped as an organic soil: Pamlico (Terric Medisaprist).

Hydrology: The range of hydrology is not well known but flooding appears to be shallow to moderate and typically not to persist long into the growing season. Soils probably remain saturated after drawdown but this is uncertain.

Vegetation: The vegetation has a well-developed closed or somewhat open forest canopy dominated by *Taxodium ascendens* or *Nyssa biflora*. One or both of these species may be the only trees, but *Acer rubrum* var *trilobum, Pinus serotina,* and *Liquidambar styraciflua* are known in some examples. The dense shrub layer may be short or tall, and is typically dominated by *Cyrilla racemiflora, Lyonia lucida, Zenobia pulverulenta*, or *Ilex glabra*. *Ilex amelanchier, Vaccinium formosum*, or *Vaccinium fuscatum* may be present, occasionally abundant, in some examples. *Smilax laurifolia* or *Smilax rotundifolia* may form dense tangles. Herbs are sparse and are largely limited to patches of *Sphagnum* spp. and *Anchistea virginica*.

Range and Abundance: Ranked G2. This handful of examples in North Carolina are scattered in the southern half of the Coastal Plain, including the outer, middle, and inner Coastal Plain and Sandhills. This community also occurs in South Carolina.

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Associations and Patterns: Coastal Plain Depression Swamps tend to fill entire basins. They are naturally bordered by dry or wet longleaf pine communities on their upland edges. Few of the remaining examples have intact surrounding vegetation.

Variation: No variants are known.

Dynamics: Dynamics are poorly known. Given the dense flammable shrub layer, fire likely is more important in the Pocosin Subtype than in other subtypes, but the frequency is not known. Almost no fires have occurred in this community in recent history. *Taxodium ascendens* is fairly tolerant of fire, *Nyssa biflora* less so, but neither would be likely to survive an intense fire burning through dense pocosin shrubs. It seems likely that trees would only regenerate after fires, when the dense cover of shrubs is reduced. Fluctuating water levels may also be important, perhaps periodically reducing shrub cover and allowing tree regeneration. While it is possible that the shrubby vegetation developed recently and that examples once were more like Cypress Savannas, a change from one to another has not been documented. Examples sometimes occur in close proximity to Cypress Savannas, with similar landscape settings and presumably similar disturbance history.

Comments: See comments for the Mixed Subtype. The Pocosin Subtype too is among the least well understood of Coastal Plain wetlands.

The Pocosin Subtype is one of two characteristic habitats for *Ilex amelanchier*. The other, banks of blackwater rivers, seems quite different. However, the species cooccurs with *Cyrilla racemiflora* in both habitats.

Nifong (1998) recognized several associations within the vegetational variation covered by this subtype: *Taxodium ascendens / Lyonia lucida / Carex striata - Woodwardia virginica / Sphagnum* Bog (8.0.1); *Nyssa biflora / Chamaedaphne calyculata / Carex striata / Sphagnum* spp. Bog (8.0.2); *Taxodium ascendens / Nyssa biflora - Acer rubrum / Zenobia pulverulenta - Lyonia lucida - Cyrilla racemiflora / Woodwardia virginica* Bog (8.0.6); *Taxodium ascendens / Lyonia lucida - Leucothoe racemosa / (Leucobryum* sp.) Bog? (8.0.8).

Rare species: No rare species are known to be associated with this community. *Ilex amelanchier*, now on the watch list, is a characteristic species for this subtype.

References:

Nifong, T.D. 1998. An ecosystematic analysis of Carolina bays in the Coastal Plain of North Carolina. Ph.D. Dissertation, University of North Carolina, Chapel Hill.